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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,997

12/16/2005

Steffen Greiner

P/2107-283

4674

2352 7590 09/17/2008
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EXAMINER

PAGE, BRENT T

ART UNIT

PAPER NUMBER

1638

MAIL DATE

DELIVERY MODE

09/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/549,997	Applicant(s) GREINER ET AL.	
	Examiner BRENT PAGE	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 32-34 is/are pending in the application.
- 4a) Of the above claim(s) 9, 12 and 16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34 is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11, 13-15, 17-23, 32 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The Reply filed by Applicants on 06/19/2008 to the office action mailed on 02/22/2008 is hereby acknowledged. The cancellation of claims 24-31 without prejudice is hereby acknowledged. The addition of claims 32-34 is also acknowledged and are additionally examined on the merits below. Any claim objections or rejections of record not specifically addressed below are considered to be hereby withdrawn in response to Applicants arguments when taken together with the claim amendments.

Claim Rejections - 35 USC § 103

Claims 1-8, 10-11, 13-15 and 17-23 remain rejected and claims 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaxiola (WO0215674) in view of Sonnewald et al (US Patent 5492820) and further, in view of Geigenberger et al (1998 Planta 205:428-437). The claims remain rejected for the reasons of record in the office action mailed out 02/22/2008, as well as the reasons set forth below.

Applicant's arguments filed 06/19/2008 have been fully considered but they are not persuasive.

Applicants urge that Gaxiola does not disclose a correlation between the expression of vacuolar pyrophosphatase and the sucrose content in plant, and that one would expect a decrease sucrose content.

This is not persuasive because Gaxiola teach a gene, that when overexpressed stimulates cell division and growth, a property that would have been appreciated by one of ordinary skill in the art, that when applied to the roots of sugar beets to actually

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increase sucrose accumulation due to the greater amount of sucrose producing tissue. The state of the art is such that many groups have increased carbon production or cell growth simply to increase yield in agronomically important crops such as sugar beet.

Applicants urge that Sonnewald does not overcome the deficiencies of Gaxiola, namely the increase sucrose content in sink tissue.

This is not persuasive because the reference does teach the increase in sucrose content, and when targeted specifically to the root or 'sink' tissue, as is common in the art, it would have been expected by one of ordinary skill in the art to also increase the sucrose in sink tissue, particularly when combined with the statement that Applicants contend to be speculative. Statements made in the prior art when leading to the claimed invention may be speculative as long as they provide a reasonable expectation of success.

Applicants urge that the later teachings of Geigenberger et al teach away from the claimed invention.

This is not persuasive because the disclosure by Geigenberger et al is cited as motivation to combine the teachings of Gaxiola and Sonnewald et al, particularly as it addresses both enzymes.

Applicants urge primarily that the prior art does not lead one to expect success or to expect that a synergistic effect by the two enzymes would result in increased sucrose content in sugar beet.

This is not persuasive because the cytosolic enzyme has been demonstrated to increase sucrose content, and the vacuolar enzyme has been demonstrated to

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stimulate growth. Indeed one would have been motivated to use the two enzymes together and would have expected an increase in accumulation of sucrose in sink tissues.

Claims 32-33 are rejected for the reasons of record and because the source of the genes would be a matter of design choice given the teachings of the prior art.

Claim 34 is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRENT PAGE whose telephone number is (571)272-5914. The examiner can normally be reached on Monday-Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571)-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Brent T Page

/Elizabeth F. McElwain/
Primary Examiner, Art Unit 1638